UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,898	04/14/2004	Toshio Nakakuki	81784.0306	5673

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *2/28/2008*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5,6,7 and 10* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5-7 and 10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 28, 2008 has been entered. Claims 1, 2, 5, 6, 7, and 10 are currently pending.

Response to Arguments

Applicant's arguments with respect to claim 1, 2, 5, 6, 7 and 10 have been considered but are moot in view of the new ground(s) of rejection. As per corrections by Applicant, Examiner withdraws the 35 U.S.C. 112 rejections to claims 1, 2 and 5.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 5, 6, 7, and 10 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Tamura et al (US 6,040,860) and Kanzaki et al. (6,137,531).

Regarding claim 1, Tamura discloses an image processing device for acquiring

image data to be processed ("comprises an imaging element for outputting an image

signal", column 2, line 62), extracting a spectrum of a predetermined physical quantity in

said image data ("FIG. 4 is a sample luminance histogram showing the feature quantity

extracted by the feature quantity extraction circuit 107", column 4, line 28), making a

determination as to whether or not said spectrum has a plurality of peaks ("This

luminance histogram (FIG. 4bcd) shows that there are two luminance peaks with one in

the low luminance range and one in the high luminance range. This makes it possible to

deduce that the captured image contains a backlit subject.", column 8, line 65), and

performing a process based on a result of the determination, wherein the process is a

backlighting correction process(The image evaluation means 108 then sets the

compensation rate of the gradation compensation characteristic used to compensate

the input image based on the luminance histogram extracted by the feature quantity

extraction circuit 107, column 9, line 2), wherein the determination as to whether or not

said spectrum has a plurality of peaks is made based on, with respect to said spectrum,

an integral value of a range where said physical quantity is no greater than a first

threshold, and an integral value of a range where said physical quantity is no smaller

than a second threshold which is greater than said first threshold ("FIG. 4 is a sample

luminance histogram showing the feature quantity extracted by the feature quantity

extraction circuit 107 in the present embodiment of the invention. Curve a in FIG. 4 is

the luminance histogram where the low luminance pixel count of pixels with a luminance

value less than or equal to threshold value 1 is level b, the middle luminance pixel count

of pixels with a luminance value between threshold value 1 and threshold value 2 is

level c, and the high luminance pixel count of pixels with a luminance value greater than

or equal to threshold value 2 is level d.", column 7, line 6; "This luminance histogram

(FIG. 4bcd) shows that there are two luminance peaks with one in the low luminance

range and one in the high luminance range. This makes it possible to deduce that the

captured image contains a backlit subject.", column 8, line 65).

Tamura does not disclose wherein at least one of said first and second

thresholds is set based on an average level of said physical quantity of said image data.

Kanzaki teaches wherein at least one of said first and second thresholds is set

based on an average level of said physical quantity of said image data (Kanzaki,

column 8, lines 18-22).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the invention of Tamura to include thresholds being set based on the

average level of luminance of said image data as taught by Kanzaki rather than having

predetermined or fixed thresholds so that, as stated in the Kanzaki reference in column

8 between lines 18 and 22, "depending on the calculated average value of luminance,

the automatic threshold value section 12 determines a threshold value necessary for

subsequent Step 3. As the average value of luminance becomes larger, a larger

threshold value is determined." In this way, since threshold values are determined for

the actual images based on the image's actual characteristics, it will provide

backlighting information more relevant to the chosen inputted images.

Regarding claim 2, Tamura discloses the image processing device according to

claim 1, wherein said physical quantity is a signal varied in accordance with a change in

an amount of light or a luminance ("FIG. 4 is a sample luminance histogram showing the

feature quantity extracted by the feature quantity extraction circuit 107", column 4, line

28).

Regarding claim 5, Tamura discloses the image processing device according to

claim 3, wherein said first threshold is smaller than the average level of said physical

quantity, and said second threshold is greater than the average level of said physical

quantity(Fig. 4 and Fig. 5a; column 7, lines 6-16, Tamura is separating a histogram

spectrum into three luminance regions and because the average luminance is related to

the middle luminance region (Fig. 5a) in order to evaluate the amount of backlighting in

a typical image input signal (column 8, lines 56-58; Fig. 3), the first threshold is smaller

than the average level of the luminance, and said second threshold is greater than the

average level of the luminance.), and said spectrum is determined as having a plurality

of peaks when satisfying at least two conditions out of: a first condition that an integral

value of a range where said physical quantity is no greater than said first threshold is no

smaller than a first percentage of an integral value of the entire range(column 7, line 9-

11; column 7, line 17-20; Fig. 2, num. 107 and 108); a second condition that an

integral value of a range where said physical quantity is no smaller than said second

threshold is no smaller than a second percentage of the integral value of the entire

range (column 7, lines 14-16; column 7, line 21-22; Fig. 2, num. 107 and 108)); and a

third condition that a sum of the integral value of the range where said physical quantity

is no greater than said first threshold and the integral value of the range where said

physical quantity is no smaller than said second threshold is no smaller than a third

percentage of the integral value of the entire range.

Regarding claim 6, Tamura discloses an image processing method for acquiring

image data to be processed ("comprises an imaging element for outputting an image

signal", column 2, line 62), extracting a spectrum of a predetermined physical quantity in

said image data ("FIG. 4 is a sample luminance histogram showing the feature quantity

extracted by the feature quantity extraction circuit 107", column 4, line 28), making a

determination as to whether or not said spectrum has a plurality of peaks ("This

luminance histogram (FIG. 4bcd) shows that there are two luminance peaks with one in

the low luminance range and one in the high luminance range. This makes it possible to

deduce that the captured image contains a backlit subject.", column 8, line 65), and

performing a process based on a result of the determination, wherein the process is a

backlighting correction process(The image evaluation means 108 then sets the

compensation rate of the gradation compensation characteristic used to compensate

the input image based on the luminance histogram extracted by the feature quantity

extraction circuit 107, column 9, line 2), wherein the determination as to whether or not

said spectrum has a plurality of peaks is made based on, with respect to said spectrum,

an integral value of a range where said physical quantity is no greater than a first

threshold (, and an integral value of a range where said physical quantity is no smaller

than a second threshold which is greater than said first threshold ("FIG. 4 is a sample

luminance histogram showing the feature quantity extracted by the feature quantity

extraction circuit 107 in the present embodiment of the invention. Curve a in FIG. 4 is

the luminance histogram where the low luminance pixel count of pixels with a luminance

value less than or equal to threshold value 1 is level b, the middle luminance pixel count

of pixels with a luminance value between threshold value 1 and threshold value 2 is

level c, and the high luminance pixel count of pixels with a luminance value greater than

or equal to threshold value 2 is level d.", column 7, line 6; "This luminance histogram

(FIG. 4bcd) shows that there are two luminance peaks with one in the low luminance

range and one in the high luminance range. This makes it possible to deduce that the

captured image contains a backlit subject.", column 8, line 65).

Tamura does not disclose wherein at least one of said first and second

thresholds is set based on an average level of said physical quantity of said image data.

Kanzaki teaches wherein at least one of said first and second thresholds is set

based on an average level of said physical quantity of said image data (Kanzaki,

column 8, lines 18-22).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the invention of Tamura to include thresholds being set based on the

average level of luminance of said image data as taught by Kanzaki rather than having

predetermined or fixed thresholds so that, as stated by the Kanzaki reference in column

8 between lines 18-22, "depending on the calculated average value of luminance, the

automatic threshold value section 12 determines a threshold value necessary for

subsequent Step 3. As the average value of luminance becomes larger, a larger

threshold value is determined." In this way, since threshold values are determined for

the actual images based on the image's actual characteristics, it will provide

backlighting information more relevant to the chosen inputted images.

Regarding claim 7, Tamura discloses the image processing method according

to claim 6, wherein said physical quantity is a signal varied in accordance with a change

in an amount of light or a luminance ("FIG. 4 is a sample luminance histogram showing

the feature quantity extracted by the feature quantity extraction circuit 107", column 4,

line 28).

Regarding claim 10, Tamura discloses the image processing method

according to claim 7, wherein said first threshold is smaller than the average level of

said physical quantity, and said second threshold is greater than the average level of

said physical quantity (Fig. 4 and Fig. 5a; column 7, lines 6-16, Tamura is separating a

histogram spectrum into three luminance regions and because the average luminance

is related to the middle luminance region (Fig. 5a) in order to evaluate the amount of

backlighting in a typical image input signal (column 8, lines 56-58; Fig. 3), the first

threshold is smaller than the average level of the luminance, and said second threshold

is greater than the average level of the luminance.), and said spectrum is determined as

having a plurality of peaks when satisfying at least two conditions out of: a first condition

that an integral value of a range where said physical quantity is no greater than said first

threshold is no smaller than a first percentage of an integral value of the entire range

(column 7, line 9-11; column 7, line 17-20; Fig. 2, num. 107 and 108); a second

condition that an integral value of a range where said physical quantity is no smaller

than said second threshold is no smaller than a second percentage of the integral value

of the entire range (column 7, lines 14-16; column 7, line 21-22; Fig. 2, num. 107 and

108); and a third condition that a sum of the integral value of the range where said

physical quantity is no greater than said first threshold and the integral value of the

range where said physical quantity is no smaller than said second threshold is no

smaller than a third percentage of the integral value of the entire range.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to ELISA M. RICE whose telephone number is (571)270-

1582. The examiner can normally be reached on 8:00a.m.-5:30p.m. EST Monday thru

Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian P. Werner can be reached on (571)272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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